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Alcan Aluminium Limited



Forty-sixth Annual Report-1973

Alcan Aluminium Limited

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Norwegian Regional Development Fund*

James W. Cameron

Montreal — Executive Vice President

David M. Culver

Montreal — Executive Vice President

Nathanael V. Davis

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Alcan Aluminium (Europe) S.A.*

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Raw Materials and Smelting*

N. Stewart Crerar

*Executive Vice President,
Engineering, Supply and Distribution*

David M. Culver

*Executive Vice President,
Fabricating and Sales*

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Vice President and Planning Coordinator

A. A. Bruneau

Secretary

T. F. D. Simmons

Treasurer

*On pourra se procurer le texte français de ce
rapport annuel en s'adressant au secrétariat
de la Compagnie, case postale 6090, Montréal,
Canada H3C 3H2.*

The Annual Meeting of the shareholders of
Alcan Aluminium Limited will be held on
Thursday, 21 March 1974, at 10 a.m. in the
Hotel Bonaventure, Montreal.

Terms: In this report, all amounts are in United
States dollars and all quantities are in short
tons of 2,000 pounds each, unless otherwise
stated.

"Subsidiary" indicates a company directly or
indirectly more than 50 percent-owned where-
as "related company" indicates a company 50
percent or less owned.

The term "Alcan" refers to the parent Alcan
Aluminium Limited itself, or to one or more
subsidiaries according to the context.

Alcan Aluminium Limited

1 Place Ville Marie, Montreal, Canada
Mail: Box 6090, Montreal, Canada H3C 3H2

Highlights and Summary of the Year 1973

Due to improved profits and productivity in fabricating and non-Canadian smelting, net income reached \$82.6 million or \$2.42 per share, against \$61.2 million or \$1.78 per share in 1972, an increase of 35 percent.

Alcan's total aluminum shipments, at 1,676,000 tons, were the highest ever and 15 percent above 1972. Increased ingot purchases made possible much of this increase. Fabricated shipments climbed above one million tons for the first time, a trebling in this sector over the past 10 years.

Another record in 1973 was the production of more than two million tons of primary aluminum by subsidiary and related companies.

Prices trended upwards in 1973 and profitability, while still below adequate levels, improved in most areas of Alcan's business, except Canada.

Alcan's Canadian smelters, now operating near capacity, should produce one million tons in 1974 against 878,000 tons in 1973 when labour difficulties curtailed their output.

Year ending 31 December

Sales of all aluminum products (tons)	1,676,000	1,451,500
Sales of fabricated products (tons)	1,013,400	859,400
Sales of fabricated products (U.S. \$ millions)	\$1,191	\$ 922
Sales and operating revenues (U.S. \$ millions)	\$1,872	\$1,511
Net income (U.S. \$ millions)	\$ 82.6	\$ 61.2
Income per common share	\$ 2.42	\$ 1.78
Dividends per common share	\$ 0.90	\$ 0.80
Capital expenditures (U.S. \$ millions)	\$ 127	\$ 125

As at 31 December

Total assets (U.S. \$ millions)	\$2,449	\$2,370
Long-term debt (U.S. \$ millions)	\$ 744	\$ 798
Common shareholders' equity (U.S. \$ millions)	\$ 953	\$ 849
Book value per common share	\$27.71	\$25.76
Number of common shares outstanding (millions)	34.40	32.95
Number of common shareholders	50,062	63,595
Percentage of common shares held		
By residents of Canada	45.5	55.0
By residents of U.S.A.	44.7	32.5
By residents of other countries	9.8	12.5
Number of employees (thousands)	62	62

Contents

Directors	
and Officers	Inside front cover
Highlights of the Year 1973	1
Report to the Shareholders	2
Fabricating and Sales	4
Finance	7
Financial Statements	9
A Ten-Year Summary	17
Raw Materials	18
Smelting	20
Alcan in Brazil	22
Operating Subsidiaries and Related Companies	Inside back cover



During the past year which brought forth more than its share of unexpected developments in such areas as rates of inflation, currency values and commodity prices, the underlying conditions of supply and demand of the aluminum industry changed quite dramatically. As 1973 began, the economic climate of the world was encouraging, but aluminum producers were still enduring the adverse impact of surplus metal supplies, low prices and inadequate profits. As the year progressed, demand for aluminum grew at an almost unprecedented pace, aluminum supply became tight, prices trended upwards and profitability, while remaining inadequate, improved in most phases of Alcan's business.

We estimate free world consumption of primary aluminum increased by almost 17 percent to a new high level of some 12 million tons in 1973. Alcan's total shipments of 1,676,000 tons of aluminum in all forms also reached new record levels, 15 percent higher than in 1972. Consolidated sales and operating revenues grew almost 25 percent to \$1,871.7 million. Alcan's subsidiary and related companies produced and sold over two million tons of primary aluminum for the first time, despite labour difficulties and power shortages which prevented several of our smelters from reaching maximum production.

Due mainly to improved productivity and profitability in its major fabricating operations and in non-Canadian smelting, Alcan's consolidated net income increased to \$82.6 million, or \$2.42 per share in 1973, compared with \$61.2 million or \$1.78 per share in 1972. This rise in earnings was moderated by sharply lower profits in the principal smelting operations in Canada, resulting from higher costs particularly for purchased metal, and from disrupted production during labor negotiations in the Quebec smelters. A series of rotating strikes and shutdowns gave rise to heavy repair and start-up costs which lowered Alcan's profit before taxes by some \$11 million during the second half of the year. In addition, the Company suffered from the lost production. Prices, however, improved and, as indicated on the chart opposite, average ingot realizations increased about 3 cents per pound in the second half of 1973. These levels are, however, still well below the realizations required to sustain new smelter investment, or even to give an adequate return on existing invested capital.

Alcan's higher tonnage of aluminum sales in 1973 was made possible partly through extraordinarily large purchases of metal, executed to meet commitments to its ingot customers and to attempt to satisfy the strong

demand for semi-fabricated products. In these circumstances it is regrettable that the Company was unable to start increasing its levels of production in Canada until the Quebec labor disruptions were settled in September and had to invoke force majeure on its sales commitments as a result of lost production. As of today, however, all of Alcan's smelters in Canada are heading towards full operation, and production in 1974 should be one million tons, or almost 14 percent greater than Canadian production of 878,000 tons in 1973.

Alcan's worldwide fabricating activities turned in a strong performance in 1973. Shipments of semi-fabricated products from consolidated subsidiaries reached 1,013,400 tons, a gain of 18 percent over 1972. More significantly, this represented a trebling of fabricated sales in the decade since 1963 and confirmation of Alcan's policy of increasing the firm load on its own smelters through expansion of fabricating. One of the areas of impressive growth in recent years has been in Latin America, particularly Brazil, and this area has been selected for special treatment in this year's report, commencing on page 22.

Presently planned capital expenditures in 1974 are likely to exceed \$200 million. Approximately half of this will

The Group Executive Committee of Alcan Aluminium Limited. L. to r.: David M. Culver, Paul H. Leman (president), Nathanael V.

Davis (chairman), James W. Cameron and John H. Hale. Absent from the photograph, N. Stewart Crerar, appointed in January 1974.

Report to the Shareholders



be spent in furthering the Company's fabricating activities, the balance being devoted to the smelting and raw materials segments of the business. It is hoped that during the current year a start will be made on the development of the Trombetas bauxite reserves on the Amazon River in Brazil and that the necessary approvals will be given to commence construction of new alumina facilities in Ireland and in Spain, as more fully explained in the Raw Materials section of this report.

The Company is giving careful study to the opportunities which exist for future smelter investments, both in Canada and in other parts of the world. Fortunately, in Canada the Company's existing hydroelectric facilities could support an expansion of aluminum production of approximately 15 percent in the short to medium term through the construction of new smelting facilities, and up to an additional 15 percent over a longer period of time through the modernization of existing facilities. The Company has not yet initiated a specific program regarding these expansion possibilities, but expects to undertake their implementation over an extended period.

The pace and direction of future growth elsewhere will depend upon adequate energy sources, trading and

currency patterns, and the availability of financial resources. After many years of concentrating on the expansion of the Group's fabricating facilities, a greater proportion of future expenditures is likely to be invested in the smelting and raw materials segments of the business.

Price of Aluminum will increase 2/3
It seems likely that aluminum will remain in short supply at least through the first half of 1974 and that serious problems of over-supply will not return unless world monetary and energy problems provoke an economic downturn greater than now expected, causing a reduction in demand for aluminum. If the world economy is able to support even a modest growth in consumption this year and a continuation of the historical growth rates in the coming few years, there should be a relatively close balance between supply and demand, resulting in a healthy commercial climate for the industry and Alcan.

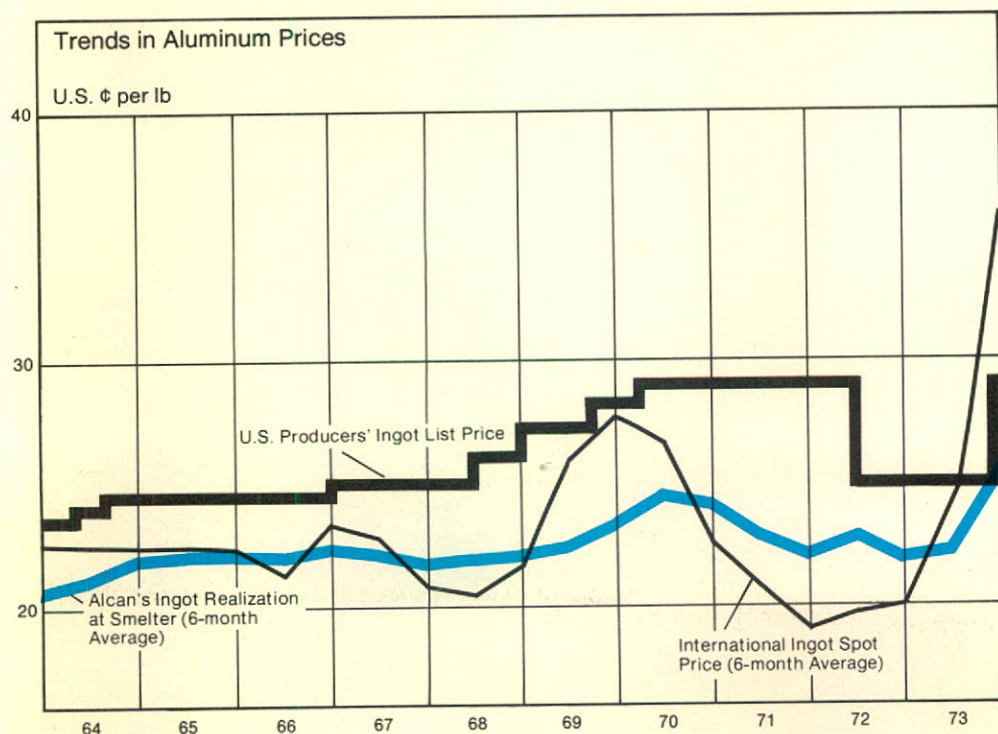
We enter 1974, however, with an unusual number of uncertainties—the energy crisis and its impact on the economies of the industrial nations, unstable currencies which disrupt prices and trading patterns for an international commodity such as aluminum, price controls in certain markets, and strong inflationary forces. Although the Company's power base

is relatively stable in Canada and at many of its overseas smelters, costs of production are being adversely affected by the rapid increase in fuel prices and the prices of other essential materials used particularly in the production of alumina and primary metal. Some of the countries producing raw materials, such as bauxite, are considering higher levies on the export of such materials. These forces are putting cost pressure on the pricing structure for aluminum products and we, therefore, foresee the need for higher prices. For many years the price of aluminum has remained quite level while the prices of most competing materials have risen, some quite sharply in recent years. In all these circumstances, and while 1974 is bound to bring unpredictable developments, we hold strongly to the belief that aluminum will continue to more than hold its place as a necessary and competitive material and that Alcan is well positioned to participate in its continuing growth.

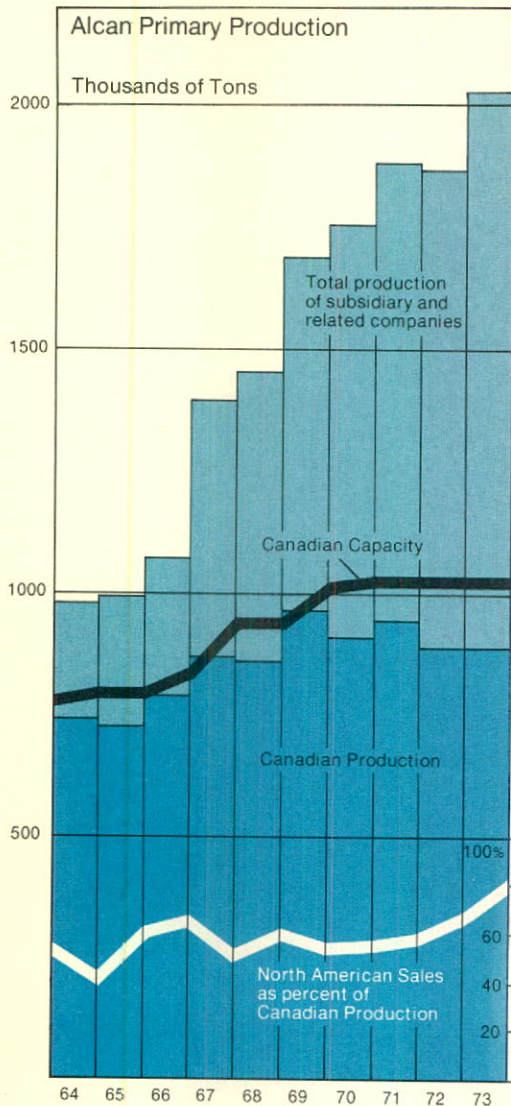
Nathaniel V. Davis
Chairman of the Board

Paul Leman
President

Montreal
30 January 1974



Fabricating and Sales



As the marketing arm of Alcan, the Fabricating and Sales division has a dual role: the sale of primary and secondary ingot on international markets, and the manufacture and sale of semi-fabricated and finished products on a worldwide basis.

1973 — in spite of difficulties — was a record year. Sales of ingot to third parties increased 12 percent to 663,000 tons. At 1,013,000 tons, 18 percent over 1972, shipments of semis reached a new high. Total shipments of 1,676,000 tons of aluminum in all forms constituted a record and amounted to almost exactly double the shipments of 1963.

Profitability of fabricating operations continued the improving trend of the last three years due to better prices combined with near capacity operations and productivity at practically all plants.

World Markets

1973 was truly a "turn-around year". Starting out with concern about price levels, excess ingot capacity, and the level of industry inventories overhanging the market, the year closed with the reverse situation, a tight metal supply causing difficulties in meeting customers' requirements, inventories below normal, and rising prices.

The rapidity with which demand built up for all aluminum products was dramatic. As the first quarter progressed, there were welcome indications that earlier cutbacks were bringing a good balance between supply and demand, with inventories dropping to normal levels; by mid-year, demand was very strong, allowing prices to move towards more realistic levels. Alcan's international list price of ingot was raised from 25¢ to 27.5¢ per lb, then to 30¢ per lb. Selected increases in most semis were also made in major markets. In the United States, the ingot price was increased to 29¢ per lb in December, while still remaining under price controls. Despite these price improvements, however, there was the usual delay in making them fully effective due to contractual price commitments which carried on for some months.

In addition to the impact of the growth in demand, previous pricing and trading patterns were affected by the realignment of most world currencies, the key being the decline in the United States and Canadian dollars against other major currencies such as the German mark, the Japanese yen and Sterling. This further altered the relative price levels between major countries (European prices for ingot rising well above North Amer-

Pre-painted, perforated aluminum sheet cuts down noise, enhances appearance at the new Düsseldorf airport terminal.



ican) but shortage of supplies, and price controls in some areas, did not permit international metal flows to even out the price anomalies. However, by year-end the rise of the value of the dollar, modest price increases in the United States, and changing supply-demand conditions started to restore a more orderly market at more satisfactory price levels.

Total world consumption of primary aluminum moved ahead sharply in 1973, being some 17 percent higher than 1972 and a record for the industry. In the U.S., already with the highest per capita consumption in the world, consumption was up 20 percent. The European Common Market was ahead 13 percent. Japan moved ahead by 13 percent but at year-end was hampered by cutbacks in production and industrial activity due to energy shortages. Brazil again had an outstanding year.

As illustrated in the chart on page 4, Alcan made substantial purchases of metal from a variety of sources during the year. Included in these purchases were 67,500 tons from the U.S. government stockpile. While Alcan was not able to make a profit on the stockpile transactions, this supply of ingot enabled the Company to meet pressing demand for metal from long-term

customers and, in other instances, to keep our fabricating plants adequately supplied.

Grouped by principal markets, Alcan's consolidated sales of aluminum in all forms were, in thousands of tons:

	1969	1970	1971	1972	1973
Canada	152	160	189	195	235
U.S.A.	399	357	387	416	481
U.K.	191	222	186	210	265
E.E.C.					
less U.K.	158	168	148	172	207
All Others	463	439	488	458	488
	1,363	1,346	1,398	1,451	1,676

Fabricating Expansion

Sales of fabricated products showed strong growth in all markets and were generally limited by capacity constraints — a situation we are moving to alleviate as rapidly as possible. For example, in sheet operations, 1973 was notable in that Alcan announced plans to build major new cold mills in three of its four major sheet complexes. In Canada, \$14 million will be invested at Kingston, Ontario, and \$20 million at Oswego, New York. The combined effect of those developments will be a balanced sheet capacity of some 500,000 tons in North America by the end of 1975. The third expansion is in Germany where Alcan, in partnership with Vereinigte Aluminium-Werke AG (VAW), is install-

ing a new mill of 80,000 tons per annum. All three will be high-speed mills of advanced design, operating at 5,000 feet per minute and incorporating sophisticated controls to assure consistent quality and flatness. This new capacity, strategically located in key markets, will allow the Company to supply these markets with a full range of sheet products. Those are all major undertakings; they express confidence in the future growth and profitability of the sheet market.

Principally in support of the building products market, Alcan also expanded its extrusion capacity by the installation of new presses in the U.K., Belgium, France and Canada. In addition, presses will come on stream in Brazil and Germany in 1974 and a further two presses are planned for the United Kingdom. A major expansion of foil capacity has also been authorized in the latter country.

In the United States, expansion continued in the building products business, with the opening of a siding manufacturing plant and warehouse in Indianapolis, plus a regional warehouse in Denver. In addition, to expand and improve the manufacture of awnings, canopies and other exterior products, a new plant will be built in North Carolina.

Alcan's Planar ceiling system in a U.S. Midwest supermarket provides flexible design and ready access to utilities.



Experimental aluminum car for rapid transit in Germany uses magnetic field technology and linear motor propulsion.



Fabricating and Sales

In Canada, Lapointe Works was opened in Arvida to provide expanded capacity of rod for the electrical cable market. Airmaster, of London, Ontario, a manufacturer of windows and doors, was acquired. In addition, Revaless Inc., a siding supplier and installer to the new housing industry in Montreal, was purchased.

In other developments, Alcan retained a 24 percent interest in Alcan Aluminium of South Africa Limited after selling 60 percent of its 60 percent share in that company to Hulett Corporation, of Durban, South Africa. Also in Africa, Alcan Aluminium of Nigeria's sheet mill was again in operation as the country continues to recover from civil war.

In Denmark, Alcan sold its 92 percent equity in Aluminord A/S to A/S Ardal og Sunndal Verk (ASV). This will allow the Danish fabricating operations to be directly complementary to the Norwegian fabricating operations of ASV, a company in which Alcan holds a 50 percent equity.

New Products and Developments

Two new Canadian products show promise. Continuously coiled extruded aluminum pipe for natural gas distribution systems was successfully introduced in Western Canada, using

installation and high-energy joining techniques developed by Alcan.

In Quebec, equipment to produce composite extrusions is undergoing pre-production trials. To be marketed under the name "Thermalok", and covered by exclusive Canadian and non-exclusive United States rights, this process is expected to provide a competitive advantage in supplying extruded window and door sections incorporating a non-aluminum thermal barrier. This type of design and construction is especially suitable in colder climates, where increasing attention is being given to efficient insulation and elimination of heat losses.

Portable aluminum screen protects wall from oil splashes when frying tempura in the kitchens of Japanese homes.



In Australia, as elsewhere, aluminum truck bodies increase payload, save fuel and reduce maintenance.



Alcan's 1973 consolidated net income of \$82.6 million showed a substantial recovery from the depressed levels of 1971 and 1972, and came close to matching the record \$85.2 million set in 1969. The basis for this recovery was the booming conditions in Alcan's major markets which allowed a 15 percent increase in consolidated shipments at prices which, on average, were above the 1972 levels. Prices began the year generally below the averages of 1972, however, and their contribution to Alcan's higher earnings became a substantial factor only in the latter part of the year.

On a regional basis, nearly all operations showed improved earnings, with the U.K. performance being especially noteworthy. The new smelter at Lynemouth, which produced 68,000 tons in 1973 and which should be operating at its full rated capacity of 132,000 tons in 1974, contributed to the improvement, as did the recovery in the profits of Alcan Booth Industries Limited, the fabricating subsidiary. Despite carrying a considerable interest burden, the U.K. operations as a whole posted a small profit in 1973 against a loss of \$9 million the year before. Operations in Australia, Germany, and Brazil also improved markedly, together contributing an additional \$13 million to net income.

Finance

The principal exception to this improved picture was Alcan's Canadian smelting operations where profits were badly squeezed by rising costs in general, but especially by the cost of metal purchased to meet sales demand in excess of Alcan's own supply, and by the impact of disruptions which preceded the signing of new labour contracts in Eastern Canada. Results also declined in India where production was curtailed by power shortages and the company was unable to get price relief to offset rising costs.

Increased revenue from the sales of fabricated products, up 29 percent on an increase in tonnage shipped of 18 percent, was the main ingredient in a \$319 million increase in total aluminum sales revenues to \$1,509 million. Ingot sales revenues reversed their decline of the past several years but still increased at a lower rate than fabricating revenues, which in 1973 accounted for a record 79 percent of total aluminum revenues. Sales of products other than aluminum, including other metals sold through Alcan's distribution system, gained 15 percent. Ocean shipping and sales of hydroelectric power, which together accounted for 90 percent of Operating revenues, increased only marginally. The 1973 Other income item of \$19 million included interest of \$3.2 million on the notes of the Government of Guyana and a gain of \$4.9 million on the sale of the controlling interest in two fabricating subsidiaries as reported elsewhere.

Aluminum gross profit of \$252 million increased by 27 percent, with the increase from fabricating substantially overcoming a small decline in ingot gross profit. Together with a 19 percent increase in gross profit on sales of non-aluminum products, and no change in the contribution from opera-

ting revenues, 1973 gross profit reached a record \$318 million. The changing parities of various currencies during 1973 created a loss on working capital, excluding inventories, of \$3 million, against a \$3 million profit contribution in 1972.

Overhead expenses increased at a lower rate than revenues, despite a sharp increase in interest paid on certain borrowings, principally in the United States and the United Kingdom, where the interest rate is tied to prime lending rates. In spite of a higher incidence of income tax, after-tax income improved by 27 percent.

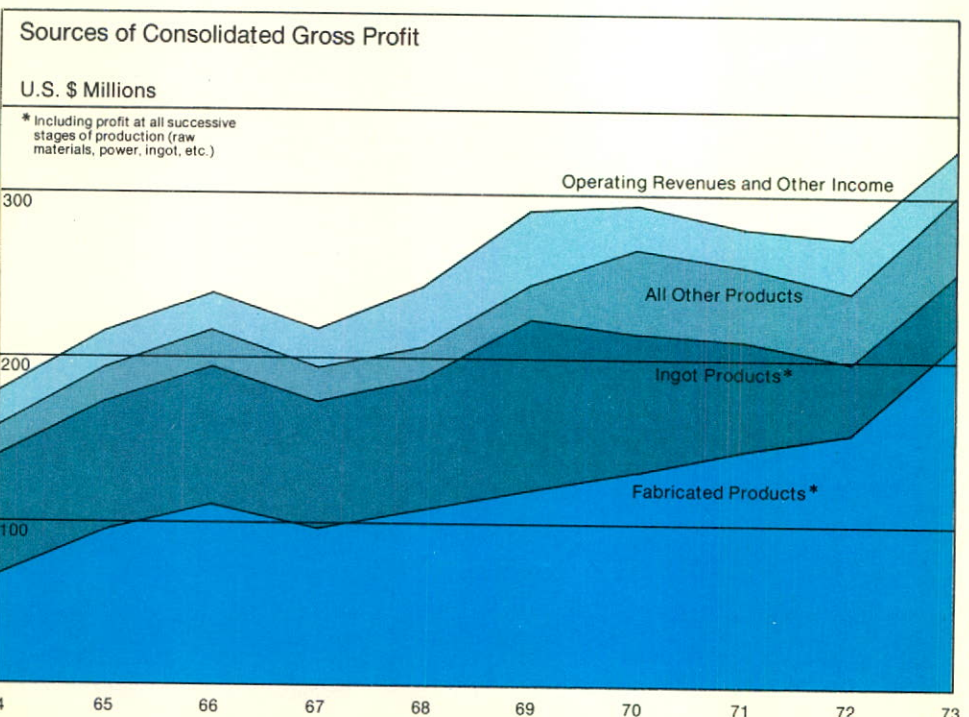
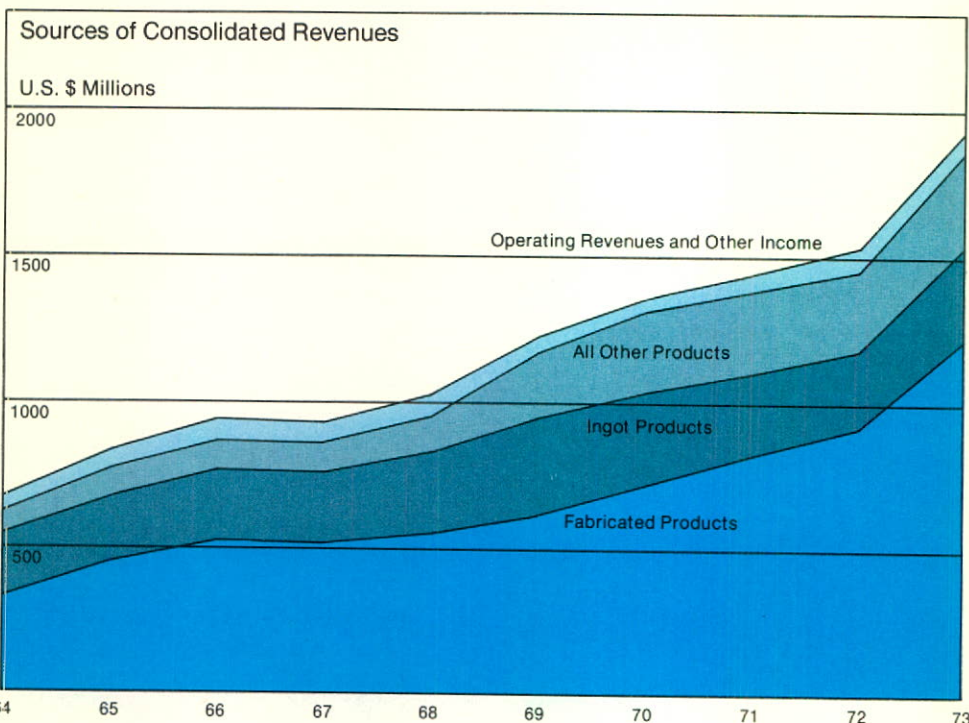
Alcan's equity in the earnings of companies 20-50 percent-owned more than doubled in 1973, reflecting some recovery in the performance of A/S Ardal og Sunndal Verk in Norway, and also the improved results of Empresa Nacional del Aluminio, S.A. (Spain), Gränges Essem AB (Sweden), and Toyo Aluminium K.K. (Japan). Minority interests, representing the net income attributable to the minority owners of certain subsidiary companies, also increased, due principally to improved results at Alcan Booth Industries Limited in the United Kingdom (owned 75 percent by Alcan), and Alcan Australia Limited (70 percent-owned).

The number of Alcan common shares outstanding increased by 1.4 million as the result of the conversion on a one-for-one basis of about 94 percent of the 4¼ percent Alcan Aluminium Limited convertible preferred shares prior to the expiry of the conversion option on 14 July. The quarterly dividend rate per common share was increased in July from 20 cents to 25 cents, and total dividends paid increased to \$32 million.

Cash generation from operations rose to \$163 million from last year's \$140 million. With no significant new borrowing arrangements made in 1973, long-term debt declined by \$54 million to \$744 million. 1973 capital expenditures and investments of \$127 million were virtually unchanged from the 1972 level of \$125 million (before investment grants of \$10 million in both years). Completion of the U.K. smelter and powerhouse was the largest single item and accounted for about 10 percent of the total. Other significant areas of expenditure included the upgrading of smelter and alumina facilities in Canada, and the smelter expansion at Belgaum in India. Outlays for expansion of Alcan's fabricating operations around the world were individually quite small, but in aggregate accounted for over 40 percent of the total.

Capital expenditures in 1974 are planned to exceed \$200 million, although some flexibility to respond to changes in the economic outlook has been retained. The largest portion will continue to be spent in the fabricating sector, with sheet mill expansions in Canada and the United States accounting for roughly \$20 million. Expenditures by the Raw Materials and Smelting divisions would both more than double their 1973 levels with the proposed, but not yet approved, construction of an 880,000-ton alumina plant in Ireland, and with

the planned 30,000-ton smelter expansion at Arvida. The Irish plant would represent an eventual investment, spread over five years, of about \$250 million, of which \$20 million would be spent in 1974. Expenditures for the Belgaum smelter expansion in India should be completed in 1974, with almost all the required capital being raised locally, partly through an issue of common shares to Indian nationals which, completed in January of this year, reduced Alcan's ownership in Indian Aluminium Company, Ltd from 65 to 55 percent.



Finance

Consolidated
Statement of
Income

year ending 31 December 1973	in thousands of U.S. dollars	
	1973	1972
Revenues		
Sales	\$1,814,883	\$1,455,607
Operating revenues	56,863	55,765
Other income (note 2)	19,357	18,012
	1,891,103	1,529,384
Costs and expenses		
Cost of sales and operating expenses	1,452,008	1,160,625
Depreciation and depletion	101,290	94,315
Selling, research and administrative expenses	138,188	121,035
Interest on debt not maturing within one year	65,920	57,698
Other interest	13,144	10,904
Other expenses	10,617	5,387
	1,781,167	1,449,964
Income before income taxes and other items	109,936	79,420
Income taxes (note 3)		
Current	50,220	32,257
Deferred	(15,439)	(12,159)
	34,781	20,098
Income before other items	75,155	59,322
Equity income less minority interests (note 4)	7,492	1,912
Net income	\$ 82,647	\$ 61,234
Per common share	in U.S. dollars	
Income (after preferred dividends)	\$2.42	\$1.78
Dividends	\$0.90	\$0.80

Alcan Aluminium Limited

Consolidated Balance Sheet

Assets

31 December 1973	in thousands of U.S. dollars	
	1973	1972
Current assets		
Cash	\$ 24,237	\$ 45,014
Time deposits	46,457	94,906
Receivables	396,919	320,777
Aluminum	277,392	235,259
Raw materials and other supplies	216,341	196,381
	961,346	892,337
Deferred receivables (note 5)	65,754	61,315
Deferred charges	5,081	4,674
Investments in companies owned 50% or less (note 6)	199,318	178,173
Property, plant and equipment (note 7)	2,547,791	2,498,604
Less: Accumulated depreciation and depletion	1,330,323	1,264,648
	1,217,468	1,233,956
Total assets	\$2,448,967	\$2,370,455

Alcan Aluminium Limited

Consolidated Balance Sheet

Liabilities

31 December 1973	in thousands of U.S. dollars	
	1973	1972
Current liabilities		
Payables	\$ 274,946	\$ 227,248
Short-term borrowings (principally from banks)	122,825	116,224
Income and other taxes	55,082	31,185
Debt maturing within one year (note 10)	66,712	49,895
	519,565	424,552
 Debt not maturing within one year (note 10)	 743,645	 797,733
 Deferred income taxes	 122,780	 130,102
 Minority interests (note 8)	 106,355	 113,646
Shareholders' equity		
Preferred shares, par Can. \$40 (note 9)		
Outstanding — 95,711 shares (1972 — 1,499,998)	3,550	55,632
Common shares, without nominal or par value (note 9)		
Outstanding — 34,396,686 shares (1972 — 32,946,549)	266,186	212,891
Retained earnings (note 11)	686,886	635,899
	956,622	904,422
 Total liabilities and shareholders' equity	 \$2,448,967	 \$2,370,455

Approved by the Board: Nathanael V. Davis, Director John H. Hale, Director

Alcan Aluminium Limited

Consolidated Statement of Changes in Financial Position

year ending 31 December 1973	in thousands of U.S. dollars	
	1973	1972
Source of funds		
Net income	\$ 82,647	\$ 61,234
Depreciation and depletion	101,290	94,315
Deferred income taxes	(15,439)	(12,159)
Other	(5,374)	(3,631)
From operations	163,124	139,759
New debt	20,770	109,840
Disposals of plant and equipment	6,590	8,394
Other	3,327	5,661
	193,811	263,654
Application of funds		
Plant and equipment (net of government development grants, \$10 million in 1973, \$10 million in 1972)	111,630	110,364
Investments	5,747	4,385
Debt	70,778	53,147
Dividends on preferred shares	1,279	2,575
Dividends on common shares	30,381	26,356
	219,815	196,827
Change in working capital (note 14)	(26,004)	66,827
Working capital — beginning of year	467,785	400,958
Working capital — end of year	\$ 441,781	\$ 467,785

The sale of shares in, and the deconsolidation of, two former subsidiaries resulted in an increase in working capital of \$10.1 million, decreases in net plant and equipment of \$22.2 million, long-term debt of \$4.5 million, minority interests of \$9.7 million and changes in other accounts of lesser amounts.

Consolidated Statement of Retained Earnings

year ending 31 December 1973	in thousands of U.S. dollars	
	1973	1972
Retained earnings — beginning of year	\$ 635,899	\$ 603,596
Net income	82,647	61,234
	718,546	664,830
Dividends on preferred shares	1,279	2,575
Dividends on common shares	30,381	26,356
	31,660	28,931
Retained earnings — end of year (note 11)	\$ 686,886	\$ 635,899

Notes to Financial Statements

in millions of
United States dollars

1. Summary of accounting policies

Principles of consolidation

The consolidated financial statements include the accounts of all companies more than 50% owned. In addition, under the equity accounting principle, consolidated net income includes Alcan's equity in the net income of all companies 20-50% owned and the investments in these companies have been increased by Alcan's share of their undistributed net income since acquisition. When the cost of an investment exceeds the book value of Alcan's equity therein at date of acquisition, the excess is amortized over the estimated useful life of the related fixed assets. Intercompany items and transactions between consolidated companies, including profits in inventories, are eliminated.

Translation of accounts into United States dollars

The consolidated financial statements are expressed in U.S. dollars since this is the principal currency of international trade in which Alcan's business is mainly involved.

Accounts, other than U.S. dollar accounts, included in the consolidated balance sheet are translated at rates of exchange current at year end except that (a) inventories, investments, fixed assets and accumulated depreciation and depletion are at rates current at dates of acquisition, (b) debts not maturing within one year are at rates current at dates of issue, and (c) deferred income taxes are at rates current at dates of origin. Accounts included in the consolidated statement of income, except depreciation and depletion, are translated at average rates of exchange prevailing during the year. Translation adjustments, not significant in amount, are included in income.

Deferred income taxes

Income tax regulations in Canada and certain other countries permit the deduction from taxable income of certain items (principally depreciation) in amounts which do not coincide with those charged for financial reporting purposes. The effect of such timing differences on income taxes otherwise payable is recognized as deferred income taxes.

Investment allowances are recognized as a reduction of income taxes when realized.

Other

Aluminum, raw materials and other supplies are stated at cost (determined for the most part on the monthly average method) or net realizable value, whichever is the lower.

Property, plant and equipment includes the cost of renewals and betterments. Repairs and maintenance are charged against income as incurred.

Depreciation is calculated on the straight-line method using rates based on the estimated useful lives of the respective assets. Depletion, not significant in amount, is calculated on the unit of production basis.

Income per common share is calculated by dividing net income less preferred dividends by the average number of shares outstanding during the year.

2. Other income	1973	1972
Interest	\$10.3	\$10.6
Net gain from sale of investments in subsidiaries and other companies	5.4	3.9
Net gain from disposal of fixed assets	1.0	1.7
Other	2.7	1.8
	<u>\$19.4</u>	<u>\$18.0</u>

3. Income taxes

Income taxes provided in 1973 represent approximately 32% of consolidated pre-tax income, a lower effective rate than statutory rates in Canada. This difference is attributable to various tax rates in other countries, to investment allowances and prior years' losses in certain subsidiaries, and to non-taxable income.

4. Equity income less minority interests	1973	1972
Alcan's equity in net income of companies 20-50% owned	\$18.3	\$ 8.2
Less minority shareholders' interest in net income of subsidiary companies	10.8	6.3
	<u>\$ 7.5</u>	<u>\$ 1.9</u>

5. Deferred receivables

Deferred receivables include \$52.1 million arising from the nationalization in 1971 of Alcan's bauxite and alumina assets in Guyana. This amount, bearing interest at 6% per annum, is receivable from the Government of Guyana over the period 1975 to 1991.

Notes to Financial Statements

in millions of
United States dollars

6. Investments in companies owned 50% or less	1973	1972
At cost plus equity in undistributed net income since acquisition		
Companies 50% owned (cost \$92 million)	\$147	\$137
Companies 20% to 50% owned (cost \$40 million)	49	35
At cost		
Companies less than 20% owned	3	6
	<u>\$199</u>	<u>\$178</u>

The financial position and results of operations of the 20-50% owned companies, which are located mainly in Australia, Germany, Guinea, Japan and Norway, are summarized below:

	50%	20% to 50%*
Financial position — 31 December 1973		
Working capital	\$186	\$147
Property, plant and equipment (net)	448	684
Other assets (net)	110	61
	<u>744</u>	<u>892</u>
Less: Deferred taxes	47	35
Debt	425	636
	<u>\$272</u>	<u>\$221</u>
Net assets		
Alcan's equity in net assets	136	46
Results of operations — year ending 31 December 1973		
Revenues	\$697	\$562
Costs and expenses	662	524
	<u>35</u>	<u>38</u>
Income before income taxes		
Income taxes	10	12
	<u>\$ 25</u>	<u>\$ 26</u>
Net income		
Alcan's share of net income — 1973	12.3	6.0
— 1972	6.6	1.6
Dividends received by Alcan — 1973	3.4	1.8
— 1972	2.7	1.2

*Where a company operates as a joint venture supplying materials to each participant, Alcan's share of the net income is applied to the cost of the materials so obtained.

7. Property, plant and equipment

	Cost	Accum. Deprec.	Net 1973	Net 1972
Land, and water rights	\$ 63	\$ 1	\$ 62	\$ 63
Mineral properties, rights and development	18	6	12	11
Raw material, power and other facilities	983	545	438	438
Smelting facilities	761	440	321	321
Fabricating facilities	723	339	384	401
	<u>\$2,548</u>	<u>\$1,331</u>	<u>\$1,217</u>	<u>\$1,234</u>

Capital projects are expected to involve expenditures in the range of \$200 to \$250 million in 1974.

8. Minority interests in subsidiary companies

	1973	1972
Preferred shares	\$ 45	\$ 49
Common shares	37	43
Retained earnings	24	22
	<u>\$106</u>	<u>\$114</u>

9. Alcan preferred and common shares

The number of 4¼% cumulative redeemable convertible preferred shares originally authorized and issued was 1,500,000 of which 1,404,289 were exchanged for an equal number of common shares prior to the expiration of the conversion privilege on 14 July 1973. The outstanding preferred shares are subject to redemption in whole or in part at any time at the option of the Board of directors on thirty days' notice at Can. \$43 per share.

The number of common shares authorized is 60,000,000. At 31 December 1973, 104,750 common shares were under option to employees, including 33,000 shares to officers and directors of the Company.

Number of shares under option

Price in Can. \$	Year of grant	1 January 1973	Exercised in 1973	Expired or cancelled in 1973	31 December 1973	Year of expiry
25.875	1963	46,600	41,600	5,000	—	1973
33.0625	1967	109,000	4,250	—	104,750	1977
		<u>155,600</u>	<u>45,850</u>	<u>5,000</u>	<u>104,750</u>	

Notes to Financial Statements

in millions of
United States dollars

10. Debt not maturing within one year	1973	1972
Aluminum Company of Canada, Ltd		
*Bank loans under \$160 million revolving credit agreement, due 1977/1981	\$100	\$100
9½% Sinking fund debentures, due 1995	100	100
9¾% Sinking fund debentures, due 1991 (Can. \$60 million)	59	59
4½% Sinking fund debentures, due 1980	33	40
7½% Serial debentures, due 1976/1979 (Can. \$40 million)	40	40
5.10% Notes, due 1974/1992	86	90
3½% Note, due 1974 (Can. \$40 million)	38	38
Other debt, due 1974/1998	4	25
Alcan Aluminum Corporation (U.S.A.)		
4¾% Notes, due 1974/1984	35	36
Other debt, due 1974/1990	12	16
Alcan Aluminium (U.K.) Limited (consolidated)		
*Loan, due 1979 (£15 million)	36	36
9% Loan stock, due 1982/1994 (£11 million)	26	27
10½% Loan stock, due 1981/1994 (£8 million)	19	19
*Bank loans, due 1975/1977 (£12 million)	29	16
Other debt, due 1974/1994 (£7 million)	17	20
Alcan Aluminium (Europe) S.A. (consolidated)		
5½% Bonds, due 1987 (Sw. F. 100 million)	26	26
Bank loans, due 1974/1981	22	16
Indian Aluminium Company, Limited		
Debentures and bank loans, due 1974/1984 (principally rupees)	33	39
Other companies		
Bank loans, due 1974/1983	43	44
Debentures and notes, due 1974/1995	50	60
	808	847
Less: Debt maturing within one year included in current liabilities (equivalent to \$67 million and \$50 million respectively at year-end rates of exchange)	64	49
	\$744	\$798

*Interest fluctuates with lender's prime commercial rate.

If translated into United States dollars at year-end rates of exchange, debt not maturing within one year would increase by \$9 million and, if there were no further change in exchange rates, this amount would be charged to income as the debt matures.

After allowing for prepayments, sinking fund and other requirements over the next five years amount to \$64 million in 1974, \$50 in 1975, \$53 in 1976, \$73 in 1977 and \$67 in 1978.

11. Retained earnings

Consolidated retained earnings at 31 December 1973 include \$161 million which, pursuant to the provisions of certain debt issues of Aluminum Company of Canada, Ltd, is not distributable as dividends either in cash or in kind to Alcan, the holder of its common shares.

Consolidated retained earnings at 31 December 1973 also include about \$195 million, some part of which may be subject to certain taxes on distribution to the parent company. No provision has been made for such taxes because these earnings have been reinvested in the business.

12. Commitments

Alcan has entered into long-term cost-sharing joint ventures under which the Company is required to pay its share of operating costs of facilities and costs of servicing long-term debt. The fixed portion of the commitments under these and other arrangements amount to \$20.0 million in 1974, \$21.8 in 1975, \$22.5 in 1976, \$23.8 in 1977, \$25.9 in 1978 and lesser annual amounts up to 1992.

Minimum rental commitments, including charter hire of ships, amount to \$19.3 million in 1974, \$17.1 in 1975, \$10.7 in 1976, \$7.6 in 1977, \$7.0 in 1978 and lesser annual amounts thereafter. Total rental expense amounted to \$45.3 million for 1973. See also reference to capital expenditures in note 7 and debt repayments in note 10.

13. Geographical distribution of capital employed

	Canada	United States	South America and Caribbean	United Kingdom	Continental Europe	Other	Total
Working capital	\$ 179	\$ 85	\$ 55	\$ 55	\$ 38	\$ 30	\$ 442
Fixed capital	1,404	203	312	275	123	231	2,548
Less: Accumulated depreciation	(855)	(81)	(164)	(80)	(59)	(92)	(1,331)
Investments and other assets	15	10	67	7	102	69	270
Capital employed — 31 December 1973	\$ 743	\$ 217	\$ 270	\$ 257	\$ 204	\$ 238	\$1,929
— 31 December 1972	776	245	256	218	198	253	1,946

Notes to Financial Statements

*in millions of
United States dollars*

14. Changes in working capital	1973	1972
Current assets		
Cash and time deposits	\$(69.2)	\$ 60.5
Receivables	76.1	12.2
Aluminum, raw materials and other supplies	62.1	(9.7)
	69.0	63.0
Current liabilities		
Payables and short-term borrowings	54.3	(18.4)
Income and other taxes	23.9	(2.8)
Debt maturing within one year	16.8	17.4
	95.0	(3.8)
Net increase (decrease)	\$ (26.0)	\$ 66.8

15. Pension plans

Alcan and its subsidiaries (with some exceptions) have established pension plans in the principal countries where they operate, for the greater part contributory and generally open to all employees. With respect to these plans, Alcan and its subsidiaries incurred a pension expense of \$16.7 million in 1973 (\$14.1 in 1972). Assets in the pension funds are virtually in balance with the liabilities for pension benefits accrued to 31 December 1973.

16. Remuneration of directors and officers

The Company has 14 directors. Their remuneration, together with that of past directors, was paid by the Company and amounted to \$57,314 in 1973 (\$65,318 in 1972). The Company has 11 officers, five of whom are directors of the Company. The aggregate remuneration received by these officers and by past officers amounted to \$1,368,717 in 1973 (\$1,248,216 in 1972) of which \$1,062,204 was paid by Aluminum Company of Canada, Ltd, the Company's principal operating subsidiary, and \$306,513 by two subsidiary management companies.

Auditors'
Report

Price Waterhouse & Co.
chartered accountants

5 Place Ville Marie, Montreal, Canada

29 January 1974

To the Shareholders of Alcan Aluminium Limited

We have examined the consolidated balance sheets of Alcan Aluminium Limited as at 31 December 1973 and 1972 and the related consolidated statements of income, retained earnings, and changes in financial position for the years then ended. Our examinations were made in accordance with generally accepted auditing standards and accordingly included such tests of accounting records and such other auditing procedures as we considered necessary in the circumstances.

In our opinion these financial statements present fairly the consolidated financial position of the Company and its subsidiaries as at 31 December 1973 and 1972 and the results of their operations and the changes in their financial position for the years then ended, in accordance with generally accepted accounting principles applied on a consistent basis.

Price Waterhouse & Co.
Chartered Accountants

Alcan Aluminium Limited

A Ten-Year Summary

Adjusted to give effect to changes in accounting practices.

Operating Data (in thousands of tons)	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
Aluminum sales by consolidated subsidiaries										
Ingot and ingot products	508	503	561	563	614	742	655	626	592	663
Fabricated products	354	490	554	541	606	621	691	772	859	1,013
	862	993	1,115	1,104	1,220	1,363	1,346	1,398	1,451	1,676
Fabricated products sales by all subsidiary and related companies	579	629	725	701	800	862	937	1,033	1,178	1,388
Production of primary aluminum										
Canada	740	728	788	878	873	969	903	945	880	878
Subsidiary and related companies outside Canada	245	269	286	521	585	720	849	935	981	1,142
	2426	2619	2914	3204	3478	3914	4035	4311	4490	5081
Consolidated Income Statement Items (in millions of U.S. dollars)										
Revenues										
Sales of aluminum ingot and ingot products	219	224	251	249	271	342	321	284	267	318
Sales of aluminum fabricated products	333	461	523	514	560	611	723	821	922	1,191
Sales of all other products	73	87	100	104	127	224	268	277	266	306
Operating revenues	51	55	53	52	49	48	52	49	56	57
Other income	7	7	6	8	15	14	10	10	18	19
	683	834	933	927	1,022	1,239	1,374	1,441	1,529	1,891
Income before income taxes and other items	94	115	128	100	128	144	119	94	79	+110
Income taxes	45	56	58	44	59	65	54	38	20	-35
Equity in net income of companies 20-50% owned	5	4	4	7	7	11	11	9	8	+18
Minority interests and Alcan preferred dividends	7	8	6	6	5	7	7	7	8	-12
Extraordinary gains	—	—	11	—	—	—	9	—	—	—
Income for common shareholders	47	55	79	57	71	83	78	58	59	81
Consolidated Balance Sheet Items (in millions of U.S. dollars)										
Working capital	277	308	306	399	323	384	444	401	468	442
Property, plant and equipment (net)	938	1,003	1,043	1,074	1,085	1,130	1,223	1,224	1,234	1,217
Investments in companies owned 50% or less	63	59	60	118	157	177	170	174	178	199
Long-term debt	520	575	566	676	608	668	751	740	798	744
Deferred income taxes	137	138	146	150	148	144	150	142	130	123
Minority interests	78	82	82	81	84	92	112	114	114	106
Shareholders' equity	562	592	645	710	747	808	847	872	904	957
Total assets	1,465	1,586	1,664	1,823	1,867	2,047	2,215	2,297	2,370	2,449
Per Common Share (in U.S. dollars)										
Income (after preferred dividends but before extraordinary gains)	1.53	1.78	2.19	1.74	2.17	2.52	2.11	1.75	1.78	2.42
Extraordinary gains	—	—	0.36	—	—	—	0.27	—	—	—
Income (after preferred dividends)	1.53	1.78	2.55	1.74	2.17	2.52	2.38	1.75	1.78	2.42
Dividends paid	0.65	0.82	0.92	1.00	1.02	1.12	1.20	1.00	0.80	.90
Funds generated from operations	3.62	4.07	5.06	4.14	4.63	4.94	5.33	4.70	4.16	4.81
Book value	16.30	17.27	18.91	20.27	21.42	22.85	24.03	24.78	25.76	27.71
Other Statistics										
Capital expenditures (net of government development grants — in millions of U.S. dollars)	67	133	113	176	136	156	165	153	115	117
Funds generated from operations (in millions of U.S. dollars)	115	129	160	136	152	165	178	157	140	163
Return on average equity (as a percentage)	9.1	10.0	13.2	8.7	10.0	11.0	9.8	7.0	6.9	8.9
Number of common shareholders at year end (thousands)	50	52	57	67	73	72	76	70	64	50
Number of employees at year end (thousands)	54	60	64	63	61	62	67	61	62	62

In 1973, the Raw Materials division successfully provided group smelters with their bauxite and alumina requirements, arranged adequate supplies for the medium-term future, and initiated the major projects necessary for the group's long-term raw materials requirements into the 1980's. The year saw the successful start-up of the consortium Boké bauxite project in the Republic of Guinea and the reactivation of the project to develop bauxite reserves in the Amazon region of Brazil. In January 1974, a proposal was under negotiation to construct an 880,000-ton alumina plant in the Republic of Ireland, in conjunction with related group companies.

Metal grade bauxite for Alcan's Quebec alumina plants was obtained by purchase from third parties, supplemented by supplies from group sources. Contracts for bauxite requirements in excess of augmented group supplies have been negotiated with third party sources for the period 1974 through 1976.

Alcan's requirements of alumina for its own use, in 1973, were some 3.2 million tons. Of this amount, 39 percent was produced by the Company's Canadian alumina plants, 39 percent by its Jamaican plants, and 14.5 percent by its related company in Aus-

tralia. Purchases provided the balance of 7.5 percent.

In Canada, alumina production at the Arvida plant was adversely affected by rotating strikes and other disruptions during negotiation of labour contracts with the trade unions at the Quebec smelter locations.

In Jamaica, Alcan Jamaica Limited produced a record 1.24 million tons of alumina at its two plants. The company's labour contract was renegotiated and extends until May 1975.

In Australia, Queensland Alumina Limited, in which Alcan has a 21 percent interest, provided Alcan with 450,000 tons of alumina for use at the Kitimat smelter in Canada and the Kurri Kurri smelter in Australia. First production from the expanded capacity of the Australian alumina plant (from 1.43 million tons to 2.24 million tons per annum) began in August. Alcan's share of the total capacity is now 480,000 tons per annum.

The recent increases in labour rates and the rising cost and short supply of fuel oil and caustic will have an inevitable impact on the cost of producing alumina in Canada, Jamaica and elsewhere. Revaluation of the Australian dollar and the higher costs

of oil and caustic will also adversely affect the cost of alumina derived from Australia.

In Malaysia, Southeast Asia Bauxites mined and shipped some 800,000 tons of bauxite mainly for use by Alcan's related company in Japan.

In France, S.A. des Bauxites et Alumines de Provence produced 490,000 tons for use by third party customers in Europe.

In the Republic of Guinea, construction of rail and port facilities and mining installations for the new large-scale bauxite development in the Boké region, which began in late 1969, was virtually complete at year end, at a total cost of \$350 million. The infrastructure is provided in large measure by the Guinea Government, and the six participating aluminum producers have joined with the Guinea Government in the mining project. Alcan has a 13.5 percent interest in the project and will take approximately 26 percent of the bauxite supplied. The first shipment of Boké bauxite in the planned regular supply to Alcan was made to Port Alfred, Quebec, in August. Alcan's share starts at the rate of over 1.3 million tons per annum and will increase to 2.6 million by the sixth year of operation.

Boké Project in Guinea, West Africa. The newly-completed Port Kamsar where bauxite is crushed, dried and

stored. From automatic sampling building at left, the mile-long conveyor carries bauxite to the loading dock.

Raw Materials



In Brazil, in September, Alcan and Companhia Vale do Rio Doce (C.V.R.D.), the leading Brazilian iron ore company, completed a joint study of the reactivation of the bauxite mining project in the Amazon region and agreed that it should be undertaken by a consortium, with 51 percent of the equity to be held by Brazilian shareholders. At an inaugural meeting of invited potential consortium members held in Rio, in December, a memorandum of understanding was signed between Alcan and C.V.R.D., two other Brazilian companies and six other non-Brazilian companies, whereby all the signatories will underwrite further engineering and the development of financial plans for the project. Subject to final approval of the consortium, it is the intention of the signatories to begin construction of the project in mid-1974. The initial stage is expected to cost approximately \$120 million and will provide for exports of 3.3 million tons of bauxite a year. From this tonnage, Alcan expects to receive 1.3 million tons a year for use at Arvida in Quebec.

As an outcome of intensive study of the most economical way to meet the increasing alumina demand in the European area in particular, Alcan has been negotiating with the govern-

ment of the Republic of Ireland a proposal to construct an 880,000 tons per annum alumina plant, at an estimated cost of £100 million. If approved, the initial plant is expected to be in operation on Aghinish Island, in the Shannon River estuary, early in 1978. Alcan's related companies A/S Ardal og Sunndal Verk (ASV), of Norway and Gränges Essem AB (Gränges), of Sweden would be minority partners in the new company, Alcan Ireland Limited. The bauxite feed to this plant would be from Boké in Guinea but the plant would be capable of processing bauxite from other sources.

In Australia, plans for the development of an alumina plant, in the Weipa area of Queensland, by a potential consortium in which Alcan was a participant, have been deferred for an indefinite period as uneconomic under present conditions. Alternative ways to develop further alumina capacity based on Australian bauxite will be studied.

In August, the Government of Spain announced its approval in principle for the construction of an 880,000 tons per annum alumina plant in the Arosa area of Galicia by a new company in which Alcan's related company, Empresa Nacional del Aluminio, S.A. (Endasa), will hold 55 percent of the

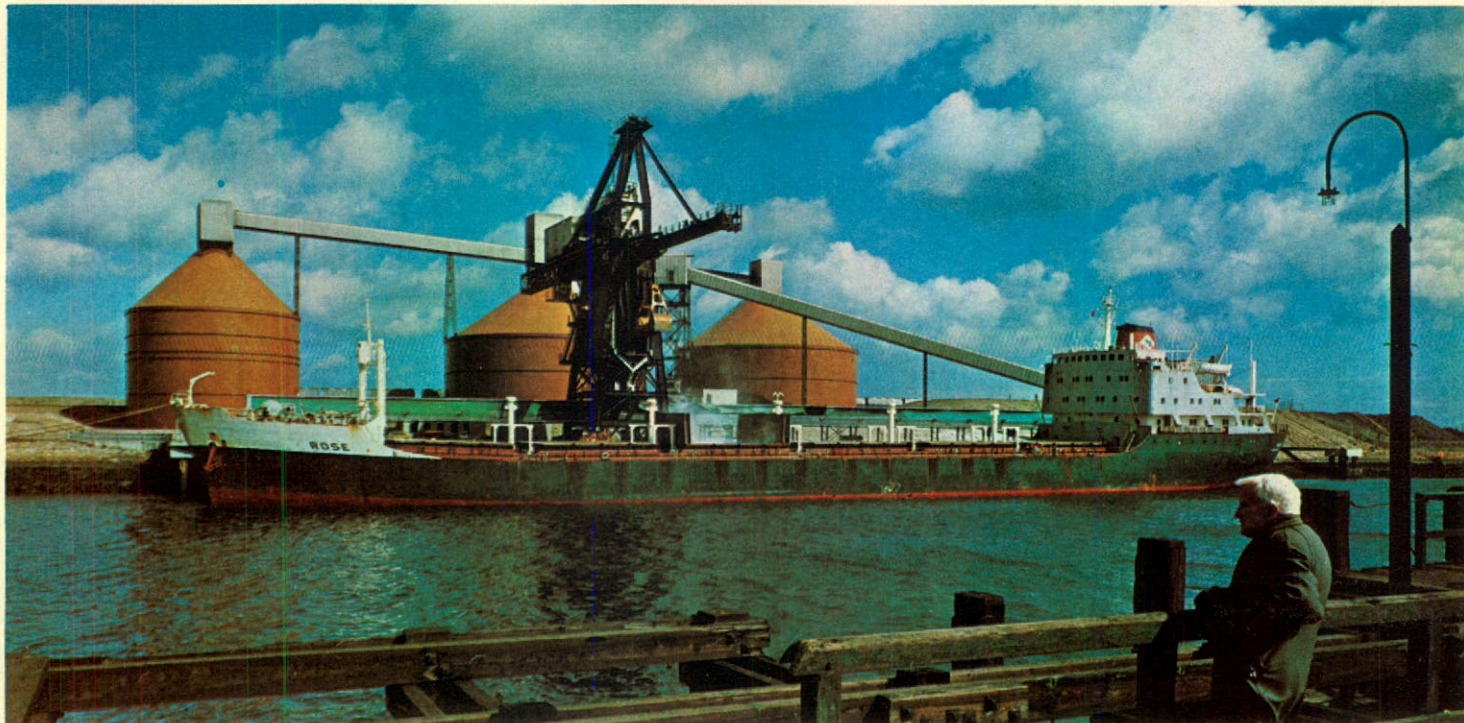
equity. Alcan has agreed in principle to provide staff on secondment to join the project team which will build the plant. Initial production from the first stage of the alumina plant, which is intended for domestic consumption, is planned for 1978.

The Alcan shipping group continued the bulk transportation of bauxite and alumina within the Alcan system. During the year the rapid rise in rates for time-chartered vessels had an adverse effect on shipping costs and this situation is expected to continue into 1974. Towards the end of 1973, increasing costs and short supplies of bunker oil posed additional shipping problems.

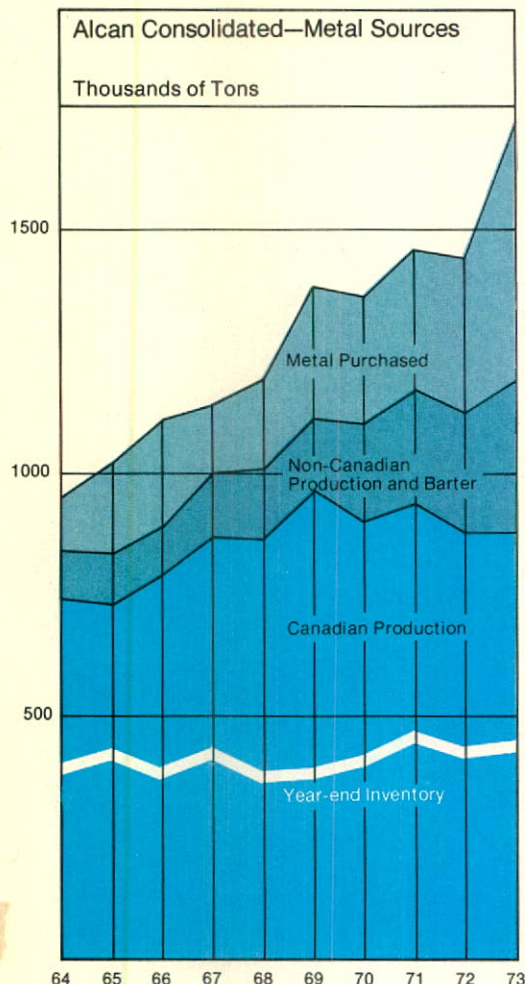
In May, Alcan and Billiton International Metals of the Netherlands began a feasibility study for a joint project for the production of refractory grade calcined bauxite, based on Billiton's bauxite reserves in Surinam and Alcan's production techniques and extensive experience in marketing the product worldwide. Dependent on the outcome, initial production of 165,000 tons a year is foreseen for late 1975.

Alumina and other raw materials for Alcan's Lynemouth smelter, Northumberland, are brought in through nearby

Blyth Harbour which has been modernized and where Alcan built new receiving facilities.



Smelting



Production of 2,020,000 tons of aluminum in 1973 by Alcan's subsidiary and related companies represents a new production record for Alcan and it is the first time the two million figure has been reached. It compares with 1972 production of 1,861,000 tons and reflects the strong worldwide demand for aluminum that developed during the course of the year.

Canadian production at 878,000 tons, 2,000 tons less than in 1972, represented 85 percent of capacity. Some 50,000 tons of production was lost because of labour difficulties in the Quebec smelters. December production rate of the Canadian system was 94 percent of capacity and it is planned to achieve full effective capacity early in 1974.

The loss of production in Canada made it necessary, in late August, to invoke force majeure on aluminum supply commitments. This production loss, along with a rapidly accelerating demand, forced the Company to allocate available ingot to its customers and own fabricating plants. Particularly affected were customers who draw on the Company's "metal pool" which is comprised mainly of Canadian metal, with some additions from Norway. Subsidiary and related smelters were fully occupied in satisfying

the demands of their own national markets.

A new collective labour agreement was reached at the fluorspar mining operation at St. Lawrence, Newfoundland, after a five week strike. At all the Company's Quebec smelting, power and transportation locations, agreement was achieved after many months of negotiations during which normal operations were severely affected. At Kitimat an agreement was signed without any disruptions. The first of these contracts does not expire until October 1975.

Construction of the Strathcona petroleum coke calcining plant near Edmonton, Alberta, a joint venture with Intalco, proceeded on schedule and will begin producing high quality petroleum coke at an annual rate of 180,000 tons in the last quarter of 1974.

Capital expenditures in the Smelting division, largely in Canada, during 1974 will total \$60 million, compared to \$28 million in 1973. Some \$10 million of a total \$17.2 million will be expended on smelting capacity at Arvida, which will increase total Canadian capacity to 1,065,000 tons per annum by mid-1975. Another \$7 million will be spent on the continuing program of modernizing existing smelter

Additional furnaces are installed for the production of ferro-alloys at the Saramenha complex, Brazil.



facilities and a larger sum, \$13.2 million, on projects dealing with the protection of the environment.

Major environmental emphasis during 1973 was in extending our dry scrubbing system on potlines at Kitimat and controlling air and water effluents at all our Canadian smelter locations. During 1974, increased environmental expenditures will further reduce emission levels and improve the working environment.

By the end of 1973, the Alcan (U.K.) smelter at Lynemouth, England, was operating at 80 percent of its rated 132,000-ton capacity and should attain full production rate during the course of 1974 as more pots are put into operation and as energy permits. The U.K. remains a substantial net importer of aluminum.

Production from Indian Aluminium Company's smelters at Belgaum, Hirakud and Alupuram totalled 84,000 tons, 71 percent of rated capacity. Production was affected by power curtailments and one-half of the projected total 27,000-ton expansion planned at Belgaum, ready for start-up in December, has been delayed. The remaining half, scheduled for 1974, is also in doubt pending clarification of the power supply.

In Japan, Nippon Light Metal Company, 50 percent-owned by Alcan, produced 357,000 tons against a rated capacity of 376,000 tons. In late 1974, an additional 49,000 tons of capacity will come on stream at the company's Niigata smelter. The increasing cost of power and other economic factors are causing the Japanese aluminum industry generally to look to offshore locations for future expansion possibilities and some of these are being examined jointly by Nippon Light Metal and Alcan.

There was an incremental increase in production capacity at the Aratú smelter of Aluminio do Brasil Nordeste S.A., in Brazil, from 11,000 tons a year to 15,000 tons during 1973 and capacity at the Saramenha smelter of Alcan Aluminio do Brasil S.A. is due to increase from 30,000 tons to 36,000 tons in 1974. Further expansion at Aratú, which will double its present capacity to 30,000 tons, has been approved.

Increased demand for primary aluminum in Australia saw Alcan Australia Limited's smelter at Kurri Kurri raise its output to full capacity of 50,000 tons by the end of the year. Total production during the year was 46,000 tons.

In Norway, A/S Ardal og Sunndal Verk (ASV), in which Alcan has a 50 percent interest, operated at 96 percent of capacity and produced 317,000 tons. There are a number of ways in which production at ASV's smelters could be increased and the most economically feasible possibilities are being studied. During the year, announcement was made that, due to obsolescence and high operating costs, the 16,000-ton capacity at Eydehavn smelter, owned by DNN Aluminium A/S, in which Alcan has a 50 percent equity, would be phased out of operation by the end of 1974.

Empresa Nacional del Aluminio, S.A. (Endasa), Spain, in which Alcan has a 25 percent interest, is expanding production at the Avilés smelter and 23,000 tons of capacity was added during 1973, with an equal tonnage due to go on stream in 1975.

The Arvida complex, Quebec, Canada, contains plant laboratory and research centre (foreground), with aluminum smelter,

alumina plants, chemical works and new fabricating installations for continuous casting of sheet and rod.



Brazil, the fifth largest country in the world, with a population of 100 million, embraces nearly 50 percent of the population and land area of South America. Brazil's goals for economic and social development are set high but performance in the last decade has left in no doubt the country's ability to achieve ambitious development programs. A large country with a young population, an abundance of resources and the will to succeed, must surely become one of the great countries of the world.

Alcan's role in the development of the Brazilian aluminum industry began as early as 1948 when Alcan Alumínio do Brasil S.A. (Alcanbrasil), called until 1960 Alumínio do Brasil S.A., entered into fabricating operations at Utinga, a part of greater São Paulo. Aluminum ingot was first produced in Brazil, at Saramenha in Ouro Preto in the state of Minas Gerais, by Electro Química Brasileira, S.A. Alumínio do Brasil acquired this company, which owned a small aluminum and ferro-alloy smelter, alumina plant and bauxite mine, in 1950, and began metal production on a commercial scale.

The smelter at Saramenha has been progressively expanding its capacity to 36,000 tons per annum. A second smelter site has been developed at

Aratú, near Salvador, in the state of Bahia, where a first half-potline is producing at the rate of 15,000 tons per annum. The installation of another half-potline of equal capacity has been recently approved and, by 1975, Alcan will be the first aluminum producer in Brazil with annual smelting capacity in excess of 66,000 tons. The Aratú smelter has the advantage of being the only coastal smelter in Brazil. Established within the framework of the SUDENE Agency regulations which encourage investment in the Northeast of Brazil, it is designed to permit considerable expansion.

Alcan's present smelter capacity in Brazil is approximately 40 percent of total domestic capacity. About 22 percent of the power for these smelters comes from company-owned hydro-electric facilities, the rest being purchased from state-owned hydro facilities. Alcanbrasil's primary metal output is mainly processed in the company's own fabricating plants, which have been steadily developed. Alcanbrasil's progress has paralleled the remarkable performance of the Brazilian economy during recent years, and has made a significant after-tax contribution to Alcan's net income during that time. Sales of aluminum products in the past 10 years have increased almost 250 percent to 62,000

tons in 1973, while sales revenues, at rates of exchange to discount inflation, have grown from \$24.6 million in 1964 to \$88.5 million in the same period.

Alcanbrasil is also the largest producer of conventional ferro-alloys (over 45,000 tons a year), at Saramenha, and an associate, with Petrobras and other Brazilian shareholders, in Petro-Coque S.A. - Indústria e Comércio, in the development of Brazil's first petroleum coke calcining plant at Cubatão in the state of São Paulo.

In building up its integrated operations in Brazil, Alcan has so far invested over U.S.\$60 million. Alcanbrasil's plans, within the framework of the Government's overall economic plan, look for expansion of both smelter and fabricating capacity, to keep pace with the ever-growing consumer demand for sheet, extrusions, cable, foil, and consumer durables in the building and construction, transportation, electrical and packaging sectors. In all these fields, the company expects to exercise the technological leadership that it has consistently brought to bear on its development of the Brazilian market, and to maintain its share of that market.

Over the last six years, the Brazilian

Beautiful Rio de Janeiro, with its unique Sugarloaf Mountain, is a familiar symbol of Brazil. In the distance is the site of Barra

da Tijuca, a model city for two million population, being built by the urban master planners who designed Brasília.

Alcan Grows with Brazil



Alcan in Brazil

Below: Assistance to schools at all levels is part of the broad program of community services by Alcan in the State of Minas Gerais.

Bottom left: Besides aluminum sheet and foil, the Utinga plant, near São Paulo, produces extrusions, cable accessories, Alpaste and consumer goods such as the well known brand of Rochedo cooking utensils.

Right: Alcan aluminum is widely used in cars, buses, the subway system and the modern buildings in bustling São Paulo.

Bottom right: Aluminum ingot is being cooled before shipment in the yard of the Aratú smelter. Alcan also makes cable in another Aratú plant.



Alcan in Brazil

GNP has grown at an average rate of over nine percent per annum — 11.4 percent in 1973. This reflects the ongoing economic "boom" that has resulted from the successful efforts of the Brazilian Government to develop the country's industrial potential on the established agricultural base, and to overcome regional economic disparities and educational deficiencies.

Domestic aluminum demand is projected to grow at an annual rate of the order of 14 percent per annum. Per capita aluminum consumption in Brazil in 1973 was 3.9 lb per person compared to 64 lb in the U.S. and 27 lb in the U.K.

For over 40 years, Alcan has been an important supplier of ingot to the Brazilian market. This role diminished as domestic smelter capacity was developed by Alcanbrasil and other companies, based on local bauxite and power resources, but Alcan con-

tinues to be a supplier of ingot as a contribution to growing Brazilian needs while domestic capacity is progressively developed.

Alcanbrasil is managed and operated entirely by Brazilians. The company employs over 5,000 people, of whom 170 have post-graduate qualifications.

The company places great value on its human resources, operates training schemes for apprentices and technical and college trainees, and internal programs for career development. The training of North-Easterners for the new smelter and cable plants at Aratú was undertaken at the already well-established Saramenha training centre. Company engineers and technicians are sent abroad for training periods at associated Alcan plants. Alcanbrasil staff frequently attend special study courses at the Alcan-associated Centre d'Études Industrielles in Geneva, and elsewhere.

Alcanbrasil provides medical, dental and hospital assistance programs, and subsidized group life insurance plans for employees and their families. The company has contributed comprehensive assistance to the communities surrounding the long established Saramenha plant for schools at all levels, medical and hospital facilities,

and welfare schemes for old people and children.

As described earlier in this report on page 19, Alcan has taken a lead with Brazilian interests and other international aluminum companies in forming a consortium which proposes to develop a major bauxite-mining project in the Amazon River basin. This Trombetas project flows from Alcan's discovery and survey of the bauxite deposits during several years of geological work in a remote region which the Brazilian government wishes to see developed. If the plans are confirmed by the sponsoring group, the initial project is expected to cost \$120 million and produce 3.3 million tons per annum of bauxite for export, with first shipments in 1977. Alcan will have a minimum 19 percent of the voting share capital of the new company and Brazilian shareholders 51 percent. Alcan expects to receive bauxite at an initial rate of 1.3 million tons per annum for use in its alumina plants at Arvida, Quebec.

As a result of Alcan's participation in this new development and the flow of bauxite from the Trombetas project for use by Alcan in Canada, the links already established by Alcan between Canada and Brazil will be further strengthened.

The Mutuca bauxite mine is located close to Alcan's integrated aluminum complex at Saramenha, Minas Gerais.



North America

Canada

Aluminum Company of Canada, Ltd
Alcan Canada Products Limited
Alcan Ingot Limited
Alcan Pipe Limited*
Alcan-Price Extrusions Limited**
Alsco Inc.*
Aluma Building Systems, Inc.**
Revalox Inc.*
Roberval and
Saguenay Railway Company, The
Saguenay Shipping Limited
Saguenay Transmission Company, Limited
Supreme Aluminum Industries Limited***

United States

Alcan Aluminum Corporation
V. E. Anderson Mfg Co.*
Fabral Corporation**
Luxfer USA Limited***

Bermuda

Alcan (Bermuda) Limited

Caribbean

Guyana

Sproston's (Guyana) Limited

Jamaica

Alcan Jamaica Limited
Alcan Products of Jamaica Limited
Sproston's (Jamaica) Limited

Trinidad

Chaguaramas Terminals Limited
Geddes Grant Sproston's Industries Limited***
Sproston's (Trinidad) Limited

Latin America

Argentina

Camea S.A.I.C.***

Brazil

Alcan Alumínio do Brasil S.A.
Alumínio do Brasil Nordeste S.A.
Mineração Rio do Norte S.A.

Colombia

Aluminio Alcan de Colombia, S.A.*

Mexico

Alcan Aluminio, S.A.*
T. K. F. Engineering and
Trading de Mexico, S.A.*

Alcan Aluminium Limited

Principal Operating Subsidiaries and Related Companies

31 December 1973

Latin America (continued)

Uruguay

Alcan Aluminio del Uruguay S.A.*

Venezuela

Alcan de Venezuela, S.A.

Europe

Belgium

Alcan Aluminium Raeren S.A.

Denmark

Aluminord A/S**†

France

Aluminium Alcan de France
Alcan-Schwartz, Filage et Oxydation*
S.A. des Bauxites et Alumines de Provence
Société Industrielle de Transformation et de
Construction (SITRACO)***

Germany

Alcan Aluminiumwerke GmbH
Alcan Aluminiumwerk Nürnberg GmbH
Alcan Folien GmbH
Aluminium Norf GmbH**

Ireland

Alcan Ireland Limited*
Unidare Limited***

Italy

Alcan Alluminio Italiano S.p.A.
Alcan Angeletti & Ciucani Alluminio S.p.A.

Netherlands

Alcan Europe N.V.

Norway

A/S Ardal og Sunndal Verk (ASV)**
A/S Nordisk Aluminiumindustri**†
DNN Aluminium A/S**

Spain

Empresa Nacional del
Aluminio, S.A. (ENDASA)***

Sweden

Gränges Essem AB***

Switzerland

Aluminiumwerke A.-G. Rorschach

United Kingdom

Alcan Booth Extrusions Limited*
Alcan Booth Sheet Limited*
Alcan Design Products Limited*
Alcan Ekco Limited***
Alcan Enfield Alloys Limited**
Alcan Foils Limited*
Alcan Polyfoil Limited*
Alcan (U.K.) Limited
Alcan Wire Limited*
Thomas Bennett Limited*
Freight Bonallack Limited*
Johnson & Bloy Aluminium Pigments
Limited***
Luxfer Limited***
E.C. Payter & Co. Limited*
Saguenay Shipping (U.K.) Limited
Tenon Contracts Limited*
Ulam Light Metal Company (1954) Limited***

Africa

Ghana

Ghana Aluminium Products Limited*

Guinea

Halco (Mining) Inc.***

Nigeria

Alcan Aluminium of Nigeria Limited*
Flag Aluminium Products Limited*

South Africa

Alcan Aluminium of South Africa Limited***
Republic Aluminium Company (Pty) Limited***
Silicon Smelter (Pty) Ltd***

Asia

India

Indian Aluminium Company, Limited*

Indonesia

P.T. Alcan Indonesia*

Japan

Nippon Light Metal Company, Ltd**
Toyo Aluminium K.K.**

Malaysia

Alcan Malaysia Berhad*
Southeast Asia Bauxites Limited*
Johore Mining and Stevedoring Co. Ltd*

Singapore

Precision Metal Industries Private Ltd**

Thailand

Alcan Thai Company Limited**

South Pacific

Australia

Alcan Australia Limited*
Alcan Queensland Pty Limited
Kawneer Company Pty Limited*
Queensland Alumina Limited***
Wm Breit & Company Pty Ltd*

New Zealand

Alcan New Zealand Limited*
Aluminium Anodizers Limited***
Aluminium Conductors Limited***
Horizon Aluminium Products Ltd***

International Sales

Alcan Aluminio (America Latina) Limited —
Latin America
Alcan Asia Limited — Japan, Afghanistan,
Pakistan and certain areas of Asia
Alcan Southeast Asia Limited —
Hong Kong, India, Philippines and
certain areas of Asia
Alcan S.A. — Continental Europe
(excluding Germany and Scandinavia),
Middle East, North Africa
Alcan Metall GmbH — Germany
Alcan (U.K.) Limited — U.K. Scandinavia
Alcan Sales (Division of
Alcan Aluminum Corporation) —
U.S.A. and Caribbean
Alcan Trading Limited

Unless otherwise indicated, companies are 100% owned
* Less than 100% owned but more than 50%
** 50% owned
*** Less than 50% owned
† 100% owned by A/S Ardal og Sunndal Verk (ASV)



Forty-sixth Annual Report-1973